REMARKS

Claims 1-22 are pending in the present application. Reconsideration of the claims is respectfully requested.

I. Allowable Subject Matter

Applicant thanks the Examiner for the indication of allowable subject matter in claim 11. However, for the reasons set forth below, Applicant respectfully submits that all of the claims are directed to allowable subject matter and that the application is in condition for allowance.

II. 35 U.S.C. § 102, Alleged Anticipation

The Office Action rejects claims 1-5, 7-10, 13-15, and 17-21 under 35 U.S.C. § 102 (e) as being allegedly anticipated by *Congdon* (U.S. Patent No. 6,311,296). This rejection is respectfully traversed.

As to independent claims 1, 7, and 17, the Office Action states:

> Regarding claim 1, Congdon teaches a method in a network computer for diagnosing a problem comprising the steps of:
> running diagnostic programs on a diagnostic adapter card coupled to the network computer (i.e., PCI management card 200 is constructed or programmed with software running on it) [see Figs. 1&2 and Col. 3, Lines 3-17 and Col. 3, Lines 37-43];
> reporting the results from running the diagnostic programs (i.e., reporting errors or failures locally or remotely over a computer network) [See Abstract and Col. 3, Lines 37-43]; and
> analyzing the results from running the diagnostic programs to determine a cause of the problem (i.e., the host computer ascertains the nature of failures or occurred events) [see Col. 7, Line 66-Col. 8, Line 10].

Office Action, dated October 31, 2003. Applicant respectfully disagrees. *Congdon* is generally directed to a PCI bus-complaint plug-in management card that is used to evaluate a PCI bus in a host computer for correct operation. In particular, *Congdon* describes a method in which the management card monitors, records, and reports anomalies or failures of bus operations. This is accomplished by a reset snoop, which snoops the PCI bus for a PCI bus reset; a cycle snoop, which snoops the PCI bus for

anomalies/failures in cycles on the PCI bus; and a clock snoop, which snoops the PCI bus for a PCI bus clock radically changing frequency or dying. An error capture may then capture error and fault conditions and report such failures to a local microprocessor for system management (column 3, lines 32-37 and column 7, lines 33-56).

Claim 1, which is representative of the other rejected independent claims 7 and 17 with regard to similarly recited subject matter, reads as follows:

> 1. A method in a network computer for diagnosing a problem, the method comprising the steps of:
> running diagnostic testing programs on a diagnostic adapter card coupled to the network computer;
> reporting the results from running the diagnostic testing programs; and
> analyzing the results from running the diagnostic testing programs to determine a cause of the problem.

Applicant respectfully submits that *Congdon* does not identically show every element of the claimed invention arranged as they are in the claims. Specifically, *Congdon* does not teach running diagnostic *testing* programs on a diagnostic adapter card, reporting the results **from running the diagnostic testing programs**, and analyzing the results **from running the diagnostic testing programs to determine a cause** of the problem.

The Office Action alleges that the features of the present invention are taught by *Congdon*. However, Applicant respectfully submits that *Congdon* fails to teach running diagnostic testing programs, reporting the results from running the diagnostic testing programs, and analyzing the results from running the diagnostic testing programs to determine a cause of the problem. Regarding the step of running diagnostic testing programs, the Office Action claims that this feature is taught in column 3, lines 3-17, 37-43. Column 3, lines 3-17 generally states that a PCI management card may be programmed to observe input/output signals passing through a PCI bus so as to **monitor** and report error and failure conditions occurring on the bus.

Moreover, in column 3, lines 37-43, *Congdon* generally states that software running on the PCI management card may signal locally to a host system or remotely to a remote system on a computer network that an anomalous event has occurred. There is no teaching or suggestion of running diagnostic testing programs on a diagnostic adapter card. As further explained in the specification (i.e., page 13, line 27-page 14, line 7), the

present invention describes a method in which diagnostic tests are conducted by sending out signals to a port to be tested. A return signal is received from the port to be tested, and the two signals are analyzed. The PCI management card of *Congdon* does not test; it does not run any diagnostic testing programs. Rather, the PCI management card of *Congdon* simply **monitors** for failure or anomalies.

The Office Action further states:

> Congdon teaches a method in a network computer for diagnosing a problem comprising running diagnostic testing programs on a diagnostic adapter card coupled to the network computer. For example, PCI management card 200 is constructed or programmed with software running on it [see Figs. 1&2 and Col. 3, Lines 3-17 and Col. 3, Lines 37-43].

Office Action, dated October 31, 2003. Applicant respectfully disagrees. The cited portion of *Congdon* states:

> Attention now is directed to the drawings and particularly to FIG. 2, which illustrates an example PCI management card 200 for managing/evaluating a PCI bus 230 in a host system for correct operation according to the principles of the present invention. An exemplary PCI management card 200 may be both mechanically and electrically PCI-compliant, and a user-friendly, self-contained fault detection device that operates fully in conjunction with a running host system. The exemplary PCI management card 200 may be constructed or programmed to observe input/output (I/O) signals passing through a PCI bus 230 to a host processor 240 and I/O devices such as a mouse, a keyboard, floppy and hard disk(s), and network ports, etc., so as to monitor and report error and failure conditions that may occur on the PCI bus 230.

Congdon, col. 3, lines 3-17.

> Depending on the implementation, software running on the PCI management card 200 may signal locally to a host system or remotely to a remote system (not shown) on a computer network that an anomalous event has occurred, and may communicate with either a host system or a remote system on a computer network as to what type of anomalous event it was.

Congdon, col. 3, lines 37-43. Thus, Congdon teaches a PCI management card that monitors signals passing through a PCI bus and reports anomalous events. However, *Congdon* does not teach or suggest running diagnostic testing programs, as recited in claim 1. Simply stated, merely monitoring signals, as taught by *Congdon*, is not equivalent to "running diagnostic testing programs," as in the claimed invention.

With regard to the step of reporting the results from running the diagnostic programs, the Office Action alleges that this feature is taught in the Abstract and in column 3, lines 37-43. Both portions of the reference generally state that a PCI management card monitors and reports anomalies or failures to a local microprocessor. Therefore, *Congdon* reports failures **responsive to the step of monitoring**. *Congdon* fails to teach or suggest the step of reporting results **from running diagnostic testing programs**.

The Office Action also states:

> Congdon further teaches reporting the results from running the diagnostic programs. For example, reporting errors or failures locally or remotely over a computer network [see Abstract and Col. 3, Lines 37-43].

Office Action, dated October 31, 2003. Applicant respectfully disagrees. Congdon teaches signaling the occurrence of an anomalous event. However, Congdon does not teach or suggest running diagnostic testing programs and reporting the **results** from running the diagnostic testing programs. Again, monitoring signals and signaling when an event occurs is not equivalent to "running diagnostic testing programs" and "reporting the results from running the diagnostic testing programs," as recited in claim 1. The Office Action does not proffer any analysis as to why monitoring signals is somehow equivalent to running diagnostic testing programs and **reporting results** of the **diagnostic testing programs**.

With regard to the step of analyzing the results from running the diagnostic programs to determine a cause of the problem, the Office Action alleges that this feature is taught in column 7, line 66, to column 8, line 10. However, the cited portion of *Congdon* generally states that software from the local memory running on the PCI management card may signal either locally to a host system or remotely to a remote system that an anomalous event has occurred on the PCI bus. In addition, such software

may further communicate with either a host system or a remote system as to what type of anomalous event occurred, e.g., for analysis purposes and a proactive response, such as providing a host user an opportunity to shut down the host system remotely before the host system crashes.

The Office Action states:

> In addition, Congdon teaches analyzing the results from running the diagnostic programs to determine a cause of the problem. For example, the host computer ascertains the nature of failures or occurred events [see Col. 7, Line 66 - Col. 8, Line 10]. In summary, Congdon teaches a method and system of monitoring/tracking error and fault conditions and testing/diagnosing problems on the PCI bus and associated components in the computer network. Those problems are managed by evaluation for correct operation.

Office Action, dated October 31, 2003. Applicant respectfully disagrees. The cited portion of *Congdon* states:

> Depending on the implementation, software from the local memory 216 running on the PCI management card 200 may then signal either locally to a host system or remotely to a remote system over a computer network that an anomalous event (fault condition) has occurred on the PCI bus 230. In addition, such software may further communicate with either a host system or a remote system over a computer network as to what type of anomalous event occurred, e.g., for analysis purposes and a proactive response, such as providing a host user or a remote user on a computer network an opportunity, for example, to shut down the host system remotely before the host system crashes.

Congdon, col. 7, line 66, to col. 8, line 10. *Congdon* clearly teaches signaling **only** that an event occurred and what type of event occurred. As evidenced in the reference, the analysis step in *Congdon* occurs in order to allow the host user to proactively respond and determine, for example, whether the host system should be shut down. *Congdon* does not teach or suggest a method **in a network computer** for diagnosing a problem comprising analyzing the results **from running the diagnostic testing programs**. The reference also fails to teach or suggest analyzing to determine a **cause** of the problem.

In view of the above, Applicant submits that *Congdon* does not teach each and every feature of independent claims 1, 7, and 17 as is required under 35 U.S.C. § 102 (e).

At least by virtue of their dependency on claims 1, 7, and 17, respectively, *Congdon* does not teach each and every feature of dependent claims 2-5, 8-10, 13-15, and 18-21. Accordingly, Applicant requests withdrawal of the rejection of claims 1-5, 7-10, 13-15, and 17-21 under 35 U.S.C. §102 (b).

More particularly, with respect to claim 3, the Office Action states:

> Regarding claim 3, Congdon further teaches the method of claim 1, wherein running diagnostic programs includes running a program to test one of bus timing, bus mastering, direct memory access operations, data and control registers associated with devices connected to a system bus, system memory, timeout functions, a boot flash monitor, input/output integrity for one or more devices selected from a keyboard, a mouse, a graphics adapter, a serial port, a parallel port, a universal serial bus port, a microphone, a speaker, and an audio output port (i.e., executing a diagnostic program to test bus/host clock, to test a boot flash, to test memory and to test registers, to test I/O devices connected to the bus,...) [see Abstract and Col. 3, Lines 3-17 and Col. 5, Lines 25-67 and Col. 7, Lines 7-65 and Col. 9, Line 61 – Col. 10, Line 5].

Office Action, dated October 31, 2003. Applicant respectfully disagrees. The Office Action cites numerous arbitrary, albeit lengthy, portions of the reference. However, *Congdon* teaches **monitoring** a PCI bus. There is no teaching in the cited portions or any other portions of *Congdon* of running **diagnostic testing** programs. Despite the allegations in the Office Action, the applied prior art fails to teach each and every claim limitation; therefore, claim 3 is not anticipated by *Congdon*.

With respect to claim 10, the Office Action states:

> Regarding claim 10, Congdon further teaches the diagnostic adapter card of claim 8, wherein an integrity of a first input/output port in the network computer and a second input/output port in the network computer is tested by connecting a wrap cable between the first input/output port and the second input/output port (i.e., testing the integrity of connection) [see Col. 1, Line 36 – Col. 2, Line 1].

Office Action, dated October 31, 2003. Applicant respectfully disagrees. The cited portion of *Cogdon* states:

> When a PCI bus is used as an interconnect transportation mechanism in a host system (e.g., personal computer or server), data transfer between, a processor, input/output (I/O) devices, system memory and I/O device is executed at high speed. However, a PCI bus is often a

> common cause of errors and/or crashing a host system. Many common failures of PCI bus are caused in conjunction with the process of adding or removing add-on adapter cards from the host system which may disrupt an existing electrical connection or form an incomplete new electrical connection, or which may alter the air flow and cooling characteristics inside the host system, or with a new adapter card which may not be well-behaved, and may have driving signals active at inappropriate times. Such failure may compromise the integrity of the host system. Any misbehaved agent on the PCI bus, for example, mayb spuriously drive the PCI reset signal, the PCI clock signal, or any of other PCI signals at any time, possibly causing a host system crash. Consequently, monitoring the PCI bus for correct operation in a host system is desirable. One approach to monitoring the PCI bus operation is to use standard electronic instruments such as PCI bus analyzers or laboratory analysis and diagnostic tools. An example of a PCI bus analyzer used for analyzing a PCI bus operation in a host computer on test bench in laboratory environment as shown in FIG. 1. The PCI bus analyzer 20 is coupled to a PCI bus 13 of a host system 11 by way of a cable 12 and a PCI bus analyzer card 10, and operates in conjunction with an analysis software (installed in PCI bus analyzer 20) for probing the PCI bus 13 to measure and display the PCI bus operation. The PCI bus analyzer 20 may be connected to an add-on card 10 for insertion directly onto a PCI bus 13 to analyze the overall performance of the PCI bus 13.

Neither the cited portion nor any other portion of *Congdon* teaches or suggests "wherein an integrity of a first input/output port in the network computer and a second input/output port in the network computer is tested by connecting a wrap cable between the first input/output port and the second input/output port," as recited in claim 10. There is no mention anywhere in *Congdon* of testing the integrity of an input/output port or connecting a **wrap cable** between two input/output ports of a network computer. In fact, *Congdon* does not mention a **network computer**, as recited in the present claims. Despite the allegations in the Office Action, the applied prior art fails to teach each and every claim limitation; therefore, claim 10 is not anticipated by *Congdon*.

Therefore, the rejection of claims 1-5, 7-10, 13-15, and 17-21 under 35 U.S.C. § 102 (e) is overcome.

III. 35 U.S.C. § 103, Obviousness

The Office Action rejects claims 6, 16, and 22 under 35 U.S.C. § 103 (a) as being unpatentable over *Congdon* in view of *Pickreign et al.* (U.S. Patent No. 6,539,338). This rejection is respectfully traversed.

First, Applicant points out that claims 6, 16, and 22 are directly or indirectly dependent on claims 1, 7, and 17, respectively. Therefore, Applicant respectfully submits that claims 6, 16, and 22 are allowable for at least the same reasons set forth with respect to claims 1, 17,and 22. Additionally, Applicant submits that as to claims 6, 16, and 22, the Office Action acknowledges that *Congdon* fails to teach or suggest that the cause of the problem includes detecting a faulty software program. The Office Action further claims, however, that the feature is "old and well-known in the art as disclosed by *Pickreign* [see Col. 2, lines 9-20]." However, the *Pickreign* reference is directed to implementing a **self-diagnostic** capability within a network interface adapter (NIA). Errors detected during execution of self-diagnostic routines are reported to the host computer. If the error is within the NIA's flash RAM, code stored in the host computer may be downloaded to correct the errant code. Therefore, *Pickreign* describes faulty software of a network interface adapter, not that within the network itself. As such, even a combination of *Congdon* and *Pickreign* fails to render obvious the features of claims 6, 16, and 22 of the present invention. Reconsideration and withdrawal of the § 103 (a) rejection of dependent claims 6, 16, and 22 is respectfully requested.

The Office Action rejects claim 12 under 35 U.S.C. § 103 (a) as being unpatentable over *Congdon* in view of *Ellis et al.* (U.S. Patent No. 6,256,687). This rejection is respectfully traversed.

With respect to dependent claim 12, Applicant first points out that this claim is indirectly dependent upon claim 7. As such, claim 12 is allowable for at least the same reasons set forth above with respect to claim 7. Additionally, the Office Action acknowledges that *Congdon* does not teach the diagnostic adapter card wherein the wrap cable between the first input/output port and the second input/output port converts a format of the data without changing content of the data. Applicant respectfully submits that *Ellis* fails to cure the deficiencies of *Congdon*. The Office Action alleges that the features of claim 12 are taught in column 3, lines 44-50 and column 15, lines 12-30 of

Ellis. However, as evidenced in these cited portions, although *Ellis* generally describes state machines that allow commands from the host processor to the parallel port interface device to be converted into USB signals, there is no indication in *Ellis* that the format of the data is converted **without changing the content of the data**. As such, Applicant respectfully submits that the combination of *Congdon* and *Ellis* fails to teach or render obvious dependent claim 12 of the present invention.

Therefore, the rejection of claims 6, 16, 22, and 12 under 35 U.S.C. § 103 is overcome.

The Office Action states:

> In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See ***In re Keller, 642F. 2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F. 2d 1091, 231 USPQ 375 (Fed. Cir. 1986).*** Applicant obviously attacks references individually without taking into consideration based on the teaching of combinations of references as shown in the following section.

Office Action, dated October 31, 2003. Applicant respectfully disagrees. If the references, individually or in any combination, fail to teach or suggest the features alleged in the Office Action, then the rejection is improper. Therefore, individual treatment of the references is necessary to show that the references fail to teach the features for which they are cited. As such, Applicant submits that the **combinations** of references proposed in the Office Action fail to render the claims obvious, because the references fail in their teachings.

The Office Action further states:

> Claims 2-6, 8-10, 12-16 and 18-22 are rejected at least by virtue of their dependency on independent claims and by other reasons set forth above.

Office Action, dated October 31, 2003. Applicant respectfully disagrees. Dependent claims **cannot** be rejected by virtue of their dependency with respect to prior art. To the contrary, dependent claims further limit the claims on which they depend, as required by 35 USC § 112, fourth paragraph. These further limitations must be individually addressed with respect to the applied prior art; otherwise, the Office Action fails to establish a *prima facie* case of anticipation or obviousness.

IV. Conclusion

It is respectfully urged that the subject application is patentable over the prior art of record and is now in condition for allowance.

The examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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